



Role of *Orvosi Hetilap* in the development of Hungarian gastroenterology

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Author contributions: Buzás GM reviewed the journal volumes (1857-2008), extracted, classified and analyzed the data, and composed the text.

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Received: December 31, 2009 Revised: February 20, 2010

Accepted: February 27, 2010

Published online: May 14, 2010

Abstract

AIM: To analyze the contribution of *Orvosi Hetilap* (Hungarian Medical Journal) to the field of gastroenterology.

METHODS: All issues of the journal between 1857 and 2008 and identified original articles and reviews dealing with gastroenterology were reviewed. The rate of publications, the thematic distribution and foreign sources of knowledge were assessed. The dates that major achievements in gastroenterology were introduced in Hungary were compared to those dates in Western medicine.

RESULTS: A total of 4799 original/research articles on gastroenterology were published, which represents 11.1% of the total publications. Thematic rankings showed that liver and biliary diseases represented 20.36% of the total, followed by gastric diseases (9.35%) and surgery (8.77%). A total of 268 foreign journals were reviewed: 50.9% were German, 30.4% English, 12.1% French and only 6.6% were in other languages. The major achievements of gastroenterology were introduced with varying delays compared to Western countries.

CONCLUSION: *Orvosi Hetilap* has made a large contribution to the development of Hungarian gastroenterol-

ogy. The high proportion of gastroenterology studies underlines the importance of digestive diseases in public health.

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Key words: Content analysis; Gastroenterology; Hepatology; *Orvosi Hetilap*; Scientometrics

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Buzás GM. Role of *Orvosi Hetilap* in the development of Hungarian gastroenterology. *World J Gastroenterol* 2010; 16(18): 2317-2320 Available from: URL: <http://www.wjgnet.com/1007-9327/full/v16/i18/2317.htm> DOI: <http://dx.doi.org/10.3748/wjg.v16.i18.2317>

INTRODUCTION

Nineteenth century Europe witnessed the publication of national medical journals. In Hungary, *Orvosi Hetilap* (OH; Hungarian Medical Journal) was first published in 1857, thus making it one of the first medical journals worldwide (Table 1). The importance of the journal in the development of Hungarian medical science and medical language is unrivalled, a fact that has been recognized many times. Much less is known, however, about the role of OH in the development of special fields, such as Hungarian gastroenterology. Medical historians divide the past 150 years into six periods according to the editors-in-chief of OH (Table 2)^[1]. Most of the editors were eminent figures in Hungarian medicine, and were quoted in foreign textbooks of medical history. To the best of my knowledge, this is the first complete content analysis of a medical journal in the field of gastroenterology.

The aim of the study was to track the timeline and make a thematic analysis of the papers dealing with diseases of the gastrointestinal tract, as published in OH between 1857 and 2008.

Table 1 Publishing timeline of the national medical journals

1798: <i>Journal de Médecine</i>	Paris
1809: <i>Journal of the Royal Society of Medicine</i>	London
1812: <i>New England Journal of Medicine</i>	Boston
1823: <i>The Lancet</i>	London
1840: <i>British Medical Journal</i>	London
1850: <i>Wiener Medizinische Wochenschrift</i>	Vienna
1854: <i>Nederlander Tijdschrift der Geeneskunde</i>	Amsterdam-Utrecht
1857: <i>Orvosi Hetilap</i>	Budapest
1875: <i>Deutsche Medizinische Wochenschrift</i>	Stuttgart
1883: <i>Journal of American Medical Association</i>	Chicago
1893: <i>La Presse Médicale</i>	Paris

Table 2 Editorial periods of *OH*

Period	Editor-in-chief	Specialty	Duration (yr)
1857-1888	L. Markusovszky (1815-1893)	Public health	32
1889-1905	E. Hőgyes (1847-1906)	Bacteriologist, pharmacologist	16
1905-1922	M. Lenhossék (1863-1937)	Anatomist	17
1923-1944	Z. Vámosy (1868-1953)	Pharmacologist	21
1948-1989	T. Trencsényi (1907-1996)	Internist	41
1989-2008	J. Fehér	Gastroenterologist, hepatologist	20

OH: *Orvosi Hetilap*.

Table 3 Rate of gastroenterology publications in *OH* between 1857 and 2008 *n* (%)

Editorial period	Total original articles	Gastroenterology articles	Total journal reviews	Gastroenterology article reviews
1857-1888	3416	312 (9.1)	1386	126 (9.0)
1888-1904	2102	143 (6.8)	435	39 (8.9)
1905-1922	2906	406 (13.9)	7332	658 (8.9)
1923-1944	7757	696 (8.9)	11586	937 (8.0)
1948-1989	19583	2175 (11.1)	31489	3965 (12.5)
1989-2008	7682	1067 (13.8)	19575	1698 (8.6)
Total No.	43446	4799 (11.1)	71803	7423 (10.3)

MATERIALS AND METHODS

I manually reviewed the journal volumes between 1857 and 2008. The full papers (both original research and reviews) as well as foreign journal article reviews were identified and classified according to their subjects and origin. All gastrointestinal, liver, biliary tract and pancreatic diseases were included. Articles on epidemics (cholera and typhus) that involved the digestive tract were excluded, being more the subject of epidemiology and microbiology, as considered by medical historians^[2]. The thematic analysis of the articles and journal reviews was performed using specific key words that occurred in the titles. The data were entered into an Excel database. The differences between the editorial periods were assessed using analysis of variance and the Kruskal-Wallis test, with a significance level of $P = 0.05$. The statistical work was performed using Statsoft Inc. version 9.0 software

Table 4 Thematic breakdown of full papers published in *OH* between 1857 and 2008¹ *n* (%)

Subject	Articles
Anatomy	18 (0.30)
Pathology	121 (2.02)
Physiology	132 (2.20)
Esophagus	194 (3.24)
Stomach	559 (9.65)
Small bowel	298 (4.98)
Appendix	93 (1.55)
Large bowel	268 (4.63)
Liver	871 (14.57)
Biliary tract	346 (5.79)
Pancreas	354 (5.92)
Peritoneum	102 (1.70)
Tumors	195 (3.26)
Surgery	524 (8.92)
Radiology	165 (2.76)
Endoscopy	246 (4.11)
Ultrasound	69 (1.25)
Pediatrics	185 (3.09)
Laboratory medicine	145 (2.42)
Peptic ulcer	189 (3.16)
Inflammatory bowel diseases	102 (1.70)
Viral hepatitis	219 (3.96)
Infectious diseases (non-epidemic)	200 (3.34)
Laparoscopic surgery	27 (0.45)
Transplantation	39 (0.67)
Genetics	61 (1.02)
General topics	252 (4.28)
Total	5974 (100)

¹Some articles are included more than once, based on keywords in the title.

(Tulsa, OK, USA). The dates when some major achievements in gastroenterology were introduced in Hungary were compared to those for Western medicine.

RESULTS

General data

The volume of *OH* gradually increased from about 400 pages a year at the outset to 800 pages at the turn of the century, before increasing further. During World Wars I and II, both the extent and the number of publications decreased. Between 1944 and 1948, the publication of *OH* was interrupted because of the post-war economic depression (mainly due to lack of paper and printing facilities). After 1948, the volume averaged out at 2469 pages/year, which reflected the increasing number of original articles, journals and book reviews.

Full papers (original research and reviews)

A total of 43446 papers were published during the period studied (Table 3). While the editorial periods were unequal, the number of papers/year was calculated and it increased from 36 (1857-1904) to 64 (1905-1922) ($P = 0.0002$), before changing to 60 (1923-1944) ($P = 0.46$), 89 (1948-1989) ($P = 0.0001$) and 53 (1989-2008) ($P = 0.48$). For the whole period, gastroenterology articles represented 11.1% (6.8-13.9) of the total number of papers published in *OH*. The thematic breakdown of full papers on gastroenterology is shown in Table 4.

Table 5 Introduction of some major gastroenterology achievements in Western countries and Hungary^[2-6]

Achievement	International application (year, author, location)	Hungarian application (year, author, location)
Rigid gastroscopy	1868 (A. Kussmaul, Freiburg)	1902 (J. Zimmermann, Budapest)
Gastric resection	1880 (L. Rydiger, Vienna)	1900 (M. Herczel, Budapest)
Radiography	1895 (K. Roentgen, Würzburg)	1896 (J. Klupathy, Budapest)
Cholecystectomy	1881 (C. Langenbuch, Berlin)	1889 (D. Velits, Budapest)
Liver biopsy	1938 (I. Silverman, New York)	1948 (L. Friedrich, Budapest)
Vagotomy	1943 (L. Dragstedt, Chicago)	1948 (E. Hedri, Budapest)
B-mode abdominal ultrasound	1957 (I. McDonald, London)	1973 (Á. Szebeni, Budapest)
Fiberoptic gastroscopy	1958 (B. Hirschowitz, Birmingham, USA)	1965 (T. Jávör, Debrecen)
Fiberoptic colonoscopy	1970 (F. Matsunaga, Tokyo)	1972 (L. Simon, Jászberény)
Endoscopic retrograde cholangio-pancreatography	1970 (I. Oi, Tokyo)	1971 (L. Sáfrány, Budapest)
Endoscopic sphincterotomy	1973 (M. Classen, Munich)	1976 (J. Papp, Budapest)
Liver transplantation	1967 (T. Starzl, Denver)	1995 F. Perner, Budapest)
Laparoscopic cholecystectomy	1985 (T. Mühe, Bobelein)	1990 (I. Kiss, Pécs)
Capsule endoscopy	2000 (P. Swain, London)	2002 (I. Rácz, Győr)

Table 6 Profile of foreign journal reviews in *OH* between 1857 and 2008

Editorial period	No. of articles reviewed	No. of journals	English (%)	German (%)	French (%)	Other Languages (%)
1857-1888	211	86	17.9	52.5	15.9	13.2
1888-1904	381	113	12.6	64.5	17.7	5.2
1905-1922	658	112	15.6	62.2	14.6	7.6
1922-1944	936	121	19.6	57.1	16.9	6.4
1948-1989	3965	178	52.4	38.4	2.9	6.3
1989-2008	1698	113	64.4	31.0	2.9	0.9
Total	7849	268	30.4	50.9	12.1	6.6

Table 7 Ranking of core journals reviewed in *OH* between 1857 and 2008 *n* (%)

Journal	Articles reviewed
<i>Deutsche Medizinische Wochenschrift</i>	1147 (31.2)
<i>Lancet</i>	584 (15.9)
<i>British Medical Journal</i>	410 (11.2)
<i>New England Journal of Medicine</i>	313 (8.5)
<i>American Journal of Roentgenology</i>	263 (7.1)
<i>Zentralblatt für Chirurgie</i>	227 (6.1)
<i>Radiology</i>	204 (5.5)
<i>Schweizerische Medizinische Wochenschrift</i>	194 (5.2)
<i>Journal of American Medical Association</i>	167 (4.5)
<i>Münchener Medizinische Wochenschrift</i>	157 (4.2)
Total	3666 (100)

The dates when some major achievements in gastroenterology were first introduced in Hungary were compared with their first application in Western countries (Table 5)^[2-7].

Journal article reviews

Foreign medical journal reviews appeared in the pages of *OH* from the very beginning. Two hundred and sixty-eight different journals were reviewed. Between 1948 and 1959, however, their publication was interrupted for political reasons. The number and language breakdown of the journals in the editorial periods are given in Table 6.

The 10 most reviewed core journals are listed in Table 7. Overall, 3666 articles were reviewed in these journals, which represented 9.7% of the total reviews. The six English journals (60%) had 1941 articles reviewed (52.5%), while the four German journals had 1725 articles reviewed (47.5%).

DISCUSSION

During the 150 years of its publication, *OH* has covered all aspects of developing gastroenterology, from basic sciences (anatomy, physiology and pathology) to the latest achievements (abdominal imaging, laparoscopic surgery, transplantation and genetics) (Table 5). Published every week, it became the main source of professional knowledge for Hungarian physicians. The 11.7% ratio of papers dealing with diseases of the gastrointestinal tract underlines their importance in public health. Diseases of the liver and biliary tract (20.36%) and the stomach (9.35%) (especially peptic ulcers, 3.16%) were studied in most detail, although there were considerable fluctuations in the publication rates. Content analysis revealed that milestone developments of gastroenterology, as quoted, mentioned or even canonized by leading historians^[3-8], were introduced in Hungary with varying degrees of delay.

A large variety of foreign journals were reviewed. An analysis of journal reviews reveals that until the 1960s, German literature was the main source of information. The reasons for this are rooted in history, given that the country was part of the Austro-Hungarian monarchy. From the 1960s onwards, British and American journals gradually became the dominant source of information until the dawn of the internet. Even so, the German weekly *Deutsche Medizinische Wochenschrift* was and remains the most frequently reviewed journal. For a closer look at the foreign sources, it would have been better to conduct a citation analysis of the full articles. However, accurate reference lists only appeared after the 1920s. Until then, references were mentioned only as footnotes, indi-

cating the name of the authors; therefore, the impact of major advances and seminal articles on the Hungarian literature cannot be calculated.

In spite of its longevity and indexing in Medline/PubMed, Index Medicus, Embase, Index Copernicus and Google Scholar, *OH* has not been assigned an impact factor. To overcome this, the current Editor-in-Chief, J. Fehér, introduced a 2-monthly English version of *OH* called the *Hungarian Medical Journal*, which has published selected articles of the parent journal since 2007. Another alternative would be the bilingual (Hungarian-English) publication of the high-quality articles. *OH* has been accessible on the internet (<http://www.akademiaikiado.hu>) since 2008.

The complete archive of *OH* is available in just a few university and hospital libraries. These collections have not benefited from the passing of time. In the future, the digitalization of the journal is vital to save its valuable scientific content for future generations.

ACKNOWLEDGMENTS

This work would not have been possible without the help of Mrs. Anna Kelemen Balázs and Mr. László Bujdosó (librarians at the Unified Saint Stephen and Saint László Hospital, Budapest). The statistical and editorial help of Mrs. Jolán Józán (Semmelweis University, Institute of Physiology) is gratefully acknowledged. The author is indebted to Mr. Douglas Arnott (EDMF Language Services, Etyek, Hungary) for correcting the English manuscript.

COMMENTS

Background

The development of a medical specialty can be followed by the analysis of articles, journals and book reviews published over time in a given field.

Innovations and breakthroughs

The paper is believed to be the first content analysis of the complete edition of a time-honored medical journal, *Orvosi Hetilap* (Hungarian Medical Journal; 1857-2008).

Applications

The author overviews the development of gastroenterology in Hungary over 150 years by analyzing and classifying the original articles, journal and book reviews in the field of gastroenterology, covering both basic (anatomy, pathology and physiology) and applied sciences (esophageal, gastric, intestinal, liver and biliary diseases, and diagnostic procedures), with an emphasis on the main achievements as they have occurred in the literature.

Peer review

This is an interesting historical review of 150 years of gastroenterology articles published in a weekly Hungarian medical journal.

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